

REMARKS

Claims 1-30 are pending in the application, with claims 28-30 having been previously withdrawn.

Applicants have carefully considered the Final Examiner's Office Action of April 25, 2008, and the references cited therein. The following is a brief summary of the Final Action. Claims 1-5 and 7-27 were rejected under 35 U.S.C. 103(a) as being unpatentable over Heyn et al (U.S. Patent 6,106,956) in view of Haffner et al (U.S. Patent 6,045,900) and Norquist et al (U.S. 6,447,875). Claim 6 was rejected under 35 U.S.C. 103(a) as being unpatentable over Heyn et al in view of Haffner et al and Norquist et al as applied to claim 1, and further in view of Bansal (U.S. 2003/017054 A1).

For the reasons explained below, applicants respectfully traverse the rejection of claims 1-5 and 7-27 under 35 U.S.C. 103(a) as being unpatentable over Heyn et al in view of Haffner et al and Norquist et al.

Claim 1 calls for a breathable laminate formed from a nonwoven support layer bonded to an oriented film. The oriented film of each of claims 1-27 requires "a letdown resin phase" and a "carrier resin phase", with the "carrier resin phase" comprising "a filler." As depicted for example in the cross-sectional illustration of applicants' FIG. 1 and set forth in claim 1, substantially all of the filler particles in the oriented film are contained within discrete regions of the carrier resin phase and thus the filler particles are thereby separated from contact with the letdown phase, and each of these discrete regions of the carrier resin phase is completely intermixed with and surrounded by the letdown resin phase.

Because the Heyn et al film is produced using a segmented extrusion die wherein the carrier resin is only brought together with the letdown resin as the two constituents are co-extruded side-by-side, Heyn et al cannot duplicate the structure of applicants' film wherein each of the discrete regions of the carrier resin phase is completely intermixed with and surrounded by the letdown resin phase.

Moreover, in applicants' claim 1, substantially all of the filler must be separated from contact with the letdown phase. As explained previously, a substantial portion of the filler 17 contacts the letdown phase 15 in a film extruded according to Heyn et al, and thus ***substantially all of the filler is not separated from contact with the letdown phase*** in a film extruded according to Heyn et al.

As acknowledged in the last sentence of paragraph 2a at page 3 of the Final Office Action, the combination of Heyn et al and Haffner et al fails to address the new claim limitation of having the discrete regions of carrier resin phase completely intermixed with and surrounded by the letdown resin phase. Nor does Norquist et al overcome this deficiency of Heyn et al and Haffner et al. Subparagraph (j) on page 6 of the Final Office Action states:

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have made the co-extruded film of Heyn et al. in the manner set forth in Norquist et al.

However, as is evident from the Norquist et al column 5, lines 49 – 55, column 6, lines 3 – 9 and Fig. 4, the Norquist et al co-extruded web 12 has so-called discrete embedded phases 59 that extend continuously down the entire length of the co-extruded upper layer 61 and lower layer 63. Even if Norquist et al upper layer 61 was the letdown resin and lower layer 63 was the letdown resin and the embedded phases

59 were the carrier resin with the filler, the resulting web 12 shown in Norquist et al Fig. 4 would fail to satisfy the requirements of claim 1. For the embedded phases 59 are co-extensive with the upper and lower layers 61, 63, and thus the ends of the embedded phases 59 are never enclosed by the upper and lower layers 61, 63. The embedded phases 59 are never surrounded by the upper and lower layers 61, 63, and accordingly, each of these discrete regions of the carrier resin phase 59 is not completely intermixed with and surrounded by the letdown resin phase 61, 63.

Additionally, claim 1 requires that substantially all of the filler 59 must be separated from contact with the letdown phase 63, and that separation aspect clearly is not demonstrated by Norquist et al Fig. 4 or any other disclosure of Norquist et al.

In response to applicants' above remarks, paragraph 6 on page 7 of the Final Office Action states that lines 40-59 of column 13 of Norquist et al:

disclose that the embedded phase is in fact a plurality of discrete embedded phases spaced apart from one another and are surrounded by a continuous matrix as instantly claimed. This description of an embodiment of Norquist et al provides for the claimed structure. The filler is to be provided only in the embedded phase and as such provides for the filler being separated from contact with the letdown phase.

However, applicants contend that the only conclusion to be drawn from a careful reading of Norquist et al lines 40-59 of column 13 is that the claimed separation aspect is not disclosed by Norquist et al. For lines 40-59 of column 13 of Norquist et al state (emphasis added):

In yet another application of the invention, the method and apparatus are used to create a web having **excellent tear resistance in the cross-web direction**. As depicted in FIG. 7A, the web 82 has a plurality of discrete embedded phases 84 spaced apart from each other in the cross-web

direction. **Discrete phases 84 are preferably resistant to tearing (i.e., they reinforce the web).** The discrete phases 84 are surrounded by a continuous matrix 86. Discrete phases 84 are for example, ultra-low density polyethylene. Matrix 86 is, for example, polypropylene. The continuous nature of the matrix allows the incorporation of phases made of a material that has little affinity for the matrix material. The phases are not able to delaminate from the matrix because they are encapsulated within the matrix. As such, these encapsulated phases avoid problems associated with materials that are extruded onto or laminated to the matrix. For example, nylon phases may be incorporated into a polypropylene matrix, even though nylon would not readily be extruded onto or laminated to a polypropylene substrate without delamination.

Fig. 7A of Norquist et al is a view that would be seen if one took a cross section of a structure similar to what is shown in Fig. 4 of Norquist et al except that the Fig. 7A web 82 only has two constituents (84, 86) rather than the three constituents (61, 63, 59) of the web 12 of Fig. 4. Because the discrete phases 84 are intended to resist tearing of the web 82 in the transverse direction, which is left to right across the page of Fig. 7A, the discrete embedded phases 84 must be continuous strands that run down the entire length of the web 82. For if the phases 84 were to terminate at any point in the longitudinal direction, then there would not be any discrete phase to resist transverse tearing at that location, and resistance to transverse tearing is the intended purpose of the discrete phase 84. Accordingly, it cannot be the case that this disclosure of Norquist et al discrete phase 84 is ever surrounded by the matrix 86, which only is encapsulating in the transverse direction but not the longitudinal direction. Accordingly, Norquist et al fails to disclose that the embedded phase is in fact a plurality of discrete embedded phases that are surrounded by the continuous matrix as claimed.

Additionally, applicants' claims include three constituents: letdown resin, carrier resin and filler, with the filler kept isolated from contact with the letdown resin. Per lines 40-59 of column 13 of Norquist et al, Norquist et al only involves two constituents, an ultra-low density polyethylene 84 embedded within a polypropylene matrix 86. Norquist et al does not suggest including a filler within the ultra-low density polyethylene 84, nor does Norquist et al suggest isolating any such filler from contact with the polypropylene matrix 86.

Applicants therefore respectfully assert that the combination of Heyn et al and Haffner et al and Norquist et al does not render applicants' claims 1-27 unpatentable.

Claim 23 requires the breathable laminate to have a moisture vapor transmission rate of about 5,000 g/m²/24 hours to about 10,000 g/m²/24 hours. In subparagraph (d) on page 4, the Final Office Action states:

Haffner et al. teach a WVTR in excess of 1500 g/m²/day.
This provides for the breathability of instant claim 23.

Subparagraph (e) on page 5 of the Final Office Action states:

It is noted herein that the teachings of Haffner et al. include WVTR in excess of 1500 g/m²/day. It is the Examiner's interpretation that such a teaching encompasses the ranges of 5,000 and 10,000 g/m²/day as claimed herein.

However, applicants would point out that even the lower end of the claimed range is a factor of **3 times greater** than the disclosed WVTR level of Haffner et al. Moreover, it is more plausible to state that the teaching of Haffner et al suggests 1600 g/m²/day, which is not within the range of claim 23. Applicants therefore respectfully submit that the Examiner's interpretation is unreasonable and hence clearly erroneous.

Accordingly, it is respectfully submitted that claim 1 is allowable over the art of record. Claims 2-27 only further patentably define the invention of claim 1 and are thus allowable for at least the reasons claim 1 is allowable. Applicants therefore respectfully submit that claims 1-5 and 7-27 are patentable under 35 U.S.C. 103(a) over Heyn et al in view of Haffner et al and Norquist et al.

For the reasons explained below, applicants respectfully traverse the rejection of claim 6 under 35 U.S.C. 103(a) over Heyn et al in view of Haffner et al and Norquist et al as applied to claim 1 and further in view of Bansal.

Bansal fails to correct the deficiencies noted above in Heyn et al in view of Haffner et al and Norquist et al as applied to claim 1, and thus claim 6 is patentable under 35 U.S.C. 103(a) over Heyn et al in view of Haffner et al and Norquist et al as applied to claim 1, and further in view of Bansal.

Moreover, claim 6 requires the carrier resin ethylene polymer or copolymer to have a melt index of at least about 20 grams per 10 minutes. The Final Office Action states at subparagraph (a) of paragraph 3 on page 6 that Bansal is cited for its disclosure of:

a multiple component spunbonded web and laminates thereof comprising a LLDPE core component (abstract) that has a density between 0.91 and 0.95 g/cc and a melt index between 18g/10min to 22 g/10 min [0013].

However, Bansal paragraph 0022 defines a multiple component web as a nonwoven web comprising multiple component fibers. Thus, the Bansal web is not composed of a LLDPE core component. Rather, the Bansal web comprises a spunbond fiber formed of multiple component fibers. Specifically, the Bansal web comprises a spunbond fiber formed in a sheath-core configuration with the polyester

component in the core and the linear low density polyethylene component in the sheath.

Indeed, the Bansal abstract states (emphasis added):

A multiple component spunbond nonwoven web is provided which **is formed from continuous multiple component fibers** which include a polyester component and a polyethylene component. * * * The spunbond fibers are preferably formed in a sheath-core configuration with the **polyester component in the core** and the **linear low density polyethylene component in the sheath**.

The Final Office Action states at subparagraph (c) on page 7 thereof that:

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have made the co-extruded film of Heyn et al. having the carrier resin being a polyethylene with a melt index of at least 20 g/10 min. The skill artisan would have been motivated by the desire to create a product with superior grab tensile strength and minimized surface fuzzing [0026].

However, while Heyn et al is a co-extruded film, Bansal is neither a co-extruded film nor a co-extruded web. The only co-extruding done by Bansal is the co-extrusion of the fibers that form the web. Bansal does not co-extrude a film or a web.

Lines 2-3 of paragraph 8 on page 8 of the Final Office Action state:

Paragraph 0026 of Bansal provides clear motivation to use LLDPE of higher melt index, which is the teaching Examiner has relied upon.

However, paragraph 0026 of Bansal appears to teach exactly the opposite, namely, it is disadvantageous to use LLDPE of higher melt index. For the entire Bansal paragraph 0026 states:

It has been found that formation of a multiple component spun bond web wherein the multiple component spun bond fibers comprise a polyester component and a polyethylene component consisting essentially of a linear low density polyethylene having a melt index greater than 22 g/10 min can be complicated by the generation of high levels

of volatile materials during extrusion of the polymers from the spinneret, causing deposits to build up on the spinneret face, quench duct face, and inside the draw jet. High levels of deposit formation reduce productivity by requiring frequent shut-down of the spunbond process to permit removal of the deposits from the equipment. It has also been found that thermally bonded spunbond webs wherein the spunbond fibers comprise a polyester component and a polyethylene component consisting essentially of a linear low density polyethylene having a melt index less than 18 g/10 min generally have reduced grab tensile strength and a high rate of surface fuzzing compared to similar spun bond materials prepared using a higher melt index linear low density polyethylene.

Thus, paragraph 0026 of Bansal teaches that a melt index less than 18 g/10 min has reduced grab tensile strength and a high rate of fuzzing, but using a melt index greater than 22 g/10 min creates undesirable complications in the extrusion machinery, and such complications reduce productivity. Since 22 g/10 min is at least about 20 g/10 min, it is doubtful that the person of ordinary skill would be motivated to employ a melt index of at least about 20 g/10 min in a **co-extruded film** when to do so during production of mere **multicomponent fibers** risks such disadvantages noted in Bansal paragraph 0026.

In view of the non-analogous features of Bansal and Bansal's contra-indicated disadvantages of using LLDPE of higher melt index noted above, the conclusion of obviousness can be reached only by selecting a single feature, the melt index range, out of a dissimilar web disclosed in Bansal. Applicants respectfully submit that the particular selection of that feature would appear to be guided solely by applicants' specification.

Applicants therefore respectfully submit that claim 6 is patentable under 35 U.S.C. 103(a) over Heyn et al in view of Haffner et al and Norquist et al as applied to claim 1, and further in view of Bansal.


Applicants respectfully request reconsideration and reexamination of claims 1-27, as presented herein, and submit that these claims are in condition for allowance and should be passed to issue.

If any fee or extension of time is required to obtain entry of this Amendment, the undersigned hereby petitions the Commissioner to grant any necessary time extension and authorizes charging Deposit Account No. 04-1403 for any such fee not submitted herewith. The Examiner is encouraged to contact the undersigned at his convenience should he have any questions regarding this matter or require any additional information.

Respectfully submitted,

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